

## Mortality by Race and by Gender

### Introduction

**Racial and gender differences in health status have long been well known. To reduce the health disparities between the minority and non-minority population is one of the highest priorities of the Missouri Department of Health. This article reviews seven years of Missouri resident mortality data (1990- 1996), describing differences in leading causes of death by race or/and by gender.**

Mortality data have been used extensively in the measurement of overall health status, whereas, life expectancy reflects underlying death rates. We used age-adjusted death rates in the study to conduct meaningful comparisons over time because these rates control for changes and variations in the age composition of the population.

### Differences between African-Americans and Whites

**Historically, African-American Missourians have had poorer overall health status than their white counterparts. Life expectancy for white Missourians in the years 1990 through 1996 was 76.1 years, which is 7 years higher than for African- Americans (69.1). Racial differences in longevity are evident in comparing mortality. As shown in Table 1 and Figure 1, the age-adjusted death rate for African-American Missourians is 61.7 percent higher than for whites. Generally, African-Americans have higher age-adjusted death rates than whites in most leading causes of death. However, the African-American suicide rate is 39.6 percent lower, and chronic pulmonary disease rate 14.5 percent lower, than for whites.**

Of the leading causes examined, diseases of the heart and malignant neoplasms appear in the same order for both races, which have been the number one and number two killers in Missouri for over a half century. African-Americans are disproportionately represented in the number of most leading causes of death. The most dramatic disparity between white and African-American Missourians is deaths due to homicide and legal intervention, with the rate for African-Americans over 12 times higher than the white rate (60.6 vs. 4.5 per 100,000 population). AIDS and diabetes mellitus are the other two causes with significant differences between races. Deaths due to AIDS for African-Americans are more than tripled compared with whites (20.3 vs. 6.3), and diabetes mellitus is 43 percent higher than whites. National data show diabetes to be more common and severe among African-Americans than whites; Missouri is no exception.

### Differences between Males and Females

**It is well-known that females have a longer life expectancy than males. Baby girls in Missouri could expect to outlive, on the average, baby boys by 6.6 years (78.3 years life expectancy vs. 71.7 years) in the years 1990 through 1996. Table 1 shows that males have higher age-adjusted death rates for all leading causes of death except one (chronic pulmonary disease). However, this difference is very small, only 0.4 percent.**

Similar to deaths by race, the two leading causes of death are diseases of the heart and malignant neoplasms for both sexes. However, the rank orders for other causes are different by gender. Death due to accidents is the number three cause for Missouri males, while it is number four for females. The number three leading cause of death for women is cerebrovascular disease, which is number four for men. Other major killers of male Missourians are AIDS, suicide, homicide and legal intervention, accident, and liver diseases and cirrhosis, with rates more than 50 percent higher than for females.

### Differentials by Race and Gender

**When we take both race and gender into consideration, a clearer picture appears. Of the four subgroups studied, African-American men in Missouri had the lowest life expectancy (63.9 years) between 1990 and 1996. African-American women and white men were expected to have a similar life span at the same time period (74.0 and 72.6 years respectively), with 1.4 years difference in longevity. Whereas, white females had the most advantage in life expectancy (79.4 years).**

Table 2 shows Missouri resident age-adjusted death rates of leading causes of death by gender and race. Heart disease and malignant neoplasms remain the top two killers for all subgroups. However, for white females, malignant neoplasms is the number one cause of death, which is number two for other subgroups. African-American males account for the higher homicide rate among African-Americans (110.2 every 100,000 persons for males versus 16.4 for females). Compared with other subgroups, homicide rate for African-American males is 16.8 times higher than white males, 37.1 times higher than white females, and 5.7 times higher than African-American females. Deaths due to suicide for white males can explain the higher suicide rate among whites (22.8 for males vs. 4.5 for females).

When we look at race within gender, several obvious differences show (Table 2). Diabetes Mellitus is the fourth leading cause of death for African-American women, but the seventh leading cause for their white counterparts. African- American females have 1.5 times higher diabetes mellitus death rate than white females. Previous study<sup>1</sup> indicates that diabetes is particularly a problem among African-Americans age 45 and older, and this might be related to higher obesity levels among African-Americans, as obesity is the major risk factor for diabetes among adults. African-American women had much higher death rates due to AIDS and homicide and legal intervention than for white women in Missouri during the same time period.

White males had a closer but lower life expectancy than African-American females between 1990 and 1996. The three leading causes of death lead to the answer. The age-adjusted suicide rate for white men (22.8 persons per 100,000) is 9.4 times higher than for African-American women (2.2). Deaths due to AIDS for white men is 2.3 times higher than for African-American women (12.2 vs. 3.7). And deaths from accidents for white males is 1.6 times higher than for African-American females (49.8 and 19.0, respectively).

### Trends

**In the last two decades, health status in Missouri improved as life expectancy increased about three years for Missourians. Gender gaps in health status narrowed, but racial disparities expanded slightly.**

Both male and female Missourians expected a longer life in 1996 than 20 years ago. Differences in longevity between males and females narrowed from 8.2 to 6.6 years since 1976, and disparities in all causes of death between genders decreased. Like the national trend, longevity gains among Missouri males outpaced those for females, because of a rapid decline in overall mortality among Missouri men since 1990. Women did not keep pace. One reason is an increase of mortality due to smoking related causes -- the finding of previous focus article entitled *Leading Cause of Death by Gender*<sup>2</sup>.

During the same time period, differences between races became more pronounced from 6.3 to 7.0 years. Despite the fact that both African-Americans and whites have a longer life expectancy than 20 years ago, the racial gap in longevity widened for the years 1990 through 1996. Percent difference in all causes of death between races increased from 29 percent in 1976 to 61 percent in 1990-1996 primarily because of a greater difference in heart disease between races. The percent difference in heart disease death between African-Americans and whites in 1976 was 4 percent, but it jumped to 45 percent in the years 1990 through 1996.

### Conclusion

**In the years 1990 through 1996, overall health status for Missourians improved. Gaps between male and female Missourians in health status have narrowed, while the disparity between white and African-Americans has increased somewhat. Overall, African-American Missourians have poorer overall health status than their white counterparts, and females are comparatively healthier than males. Of the four subgroups studied, white female Missourians enjoy the most advantage in life expectancy, while African-American men the least.**

African-Americans, especially African-American men, have higher age-adjusted death rates in most leading causes of death. The mortality rate for homicide and legal intervention for African-American males is extremely high. AIDS and diabetes mellitus are serious problems among African-Americans. Deaths due to nephritis & nephrosis, and liver disease and cirrhosis are significantly higher for African-American men and women compared with their white counterparts.

### References:

<sup>1</sup> "Prevalence of Diabetes among African-Americans in the City of St. Louis, Kansas City, and the Bootheel Region of Missouri", Missouri Department of Health, Division of Chronic Disease Prevention and Health Promotion, Office of Surveillance, Research and Evaluation, October 1997.

<sup>2</sup> "Leading Causes of Death by Gender," *Missouri Monthly Vital Statistics*, Missouri Department of Health, State Center for Health Statistics, November 1995

<sup>3</sup> "Mortality Differentials by Race," *Missouri Monthly Vital Statistics*, Missouri Department of Health, State Center for Health Statistics, October, 1987

<sup>4</sup> "Differences in Mortality by Race," *Missouri Monthly Vital Statistics*, Missouri Department of Health, State Center for Health Statistics, January 1992

**Table 1**

**Age-Adjusted\* Death Rates For the Leading Causes of Death, by State, by Race and by Gender:  
Missouri 1990-1996**

(Rates per 100,000 Population)												
Cause	State		Race				Percent		Gender			Percent
	Rate	Rank	White	Rank	Black	Rank	Difference	Male	Rank	Female	Rank	Difference
Diseases of the Heart	154.0	1	147.7	1	215.2	1	45.8%	208.5	1	111.0	2	-46.7%
Malignant Neoplasms	138.4	2	132.8	2	192.8	2	45.1%	171.0	2	114.8	1	-32.9%
Accidents	35.1	3	34.5	3	38.6	4	12.0%	51.2	3	20.0	4	-61.0%
Cerebrovascular Disease	27.8	4	26.2	4	43.5	5	66.2%	30.4	4	25.8	3	-14.9%
Chronic Pulmonary Disease	22.4	5	22.6	5	19.4	7	-14.5%	30.2	5	17.3	5	0.4%
Pneumonia & Influenza	14.0	6	13.6	6	17.3	8	27.4%	18.2	8	11.3	7	-38.0%
Suicide	12.9	7	13.3	7	8.1	9	-39.6%	22.2	6	4.3	9	-80.6%
Diabetes Mellitus	12.1	8	10.8	9	26.2	6	143.3%	13.0	10	11.3	6	-13.1%
Homicide & Legal Intervention	11.4	9	4.5	11	60.6	3	1240.3%	18.3	7	4.6	8	-74.6%
AIDS	7.9	10	6.3	8	20.3	10	221.0%	15.1	9	1.0	12	-93.5%
Liver Disease & Cirrhosis	6.0	11	5.6	10	9.3	11	65.7%	8.9	11	3.5	11	-60.5%
Nephritis & Nephrosis	4.5	12	4.1	12	9.2	12	126.4%	5.8	12	3.7	10	-36.5%
All Causes of Death	536.0		495.6		801.3		61.7%	690.1		410.2		-40.55%

\* 1940 U.S. population used as standard.

**Table 2**

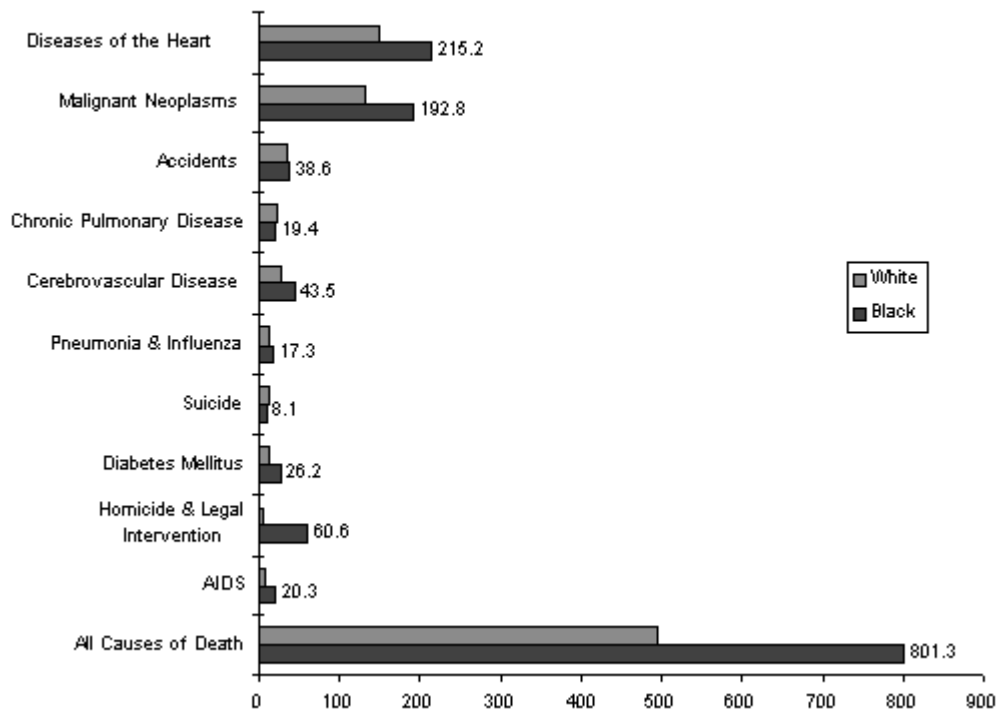
**Age-Adjusted\* Death Rates for Leading Causes of Death by Gender and Race: Missouri 1990-1996**

(Rates per 100,000 Population)											
Cause	Male					Female					
	White	Rank	Black	Rank	Percent Difference	White	Rank	Black	Rank	Percent Difference	
Diseases of the heart	201.5	1	279.1	1	38.5%	104.8	2	169.8	1	62.1%	
Malignant neoplasms	163.3	2	258.0	2	58.0%	110.7	1	149.1	2	34.7%	
Accidents	49.8	3	62.5	4	25.6%	19.9	4	19.0	5	-4.3%	
Cerebrovascular disease	28.4	5	52.0	5	83.2%	24.5	3	37.4	3	52.6%	
Chronic pulmonary disease	30.4	4	27.6	7	-9.0%	17.6	5	14.1	7	-19.7%	
Pneumonia & influenza	17.6	7	24.7	9	40.4%	11.1	6	12.7	8	14.7%	
Suicide	22.8	6	15.0	10	-34.2%	4.5	8	2.2	12	-51.3%	
Diabetes mellitus	11.7	9	27.5	8	134.2%	9.9	7	25.1	4	152.1%	
Homicide & legal intervention	6.2	11	110.2	3	1682.7%	2.9	11	16.4	6	469.6%	
AIDS	12.2	8	40.6	6	233.4%	0.6	12	3.7	11	512.9%	
Liver disease & cirrhosis	8.4	10	13.2	11	56.9%	3.1	10	6.3	10	103.9%	
Nephritis & nephrosis	5.3	12	11.0	12	106.4%	3.2	9	8.0	9	149.1%	
All causes of death	646.0		1093.8		69.3%	374.4		581.6		55.3%	

\* 1940 U.S. population used as standard.

**Figure 1**

**Age-Adjusted Death Rates for Leading Causes by Race: Missouri 1990-1996**



**Provisional Vital Statistics for November 1997**

**Live births** increased in November as 5,445 Missouri babies were born compared with 5,063 in November 1996. Because of different reporting periods the birth rate decreased slightly.

Cumulative births for the 11- and 12-month time periods ending with November both show decreases. For the 12 months ending with November, births dropped by 1 percent from 72,796 to 72,077.

**Deaths increased slightly for the 11- and 12-month periods ending with November. For the 12 months ending with November, deaths increased by 2.1 percent from 53,357 to 54,473.**

The **Natural increase** for Missouri in November was 1,367 (5,445 births minus 4,078 deaths). The monthly rate of natural increase went from 2.4 to 3.0 per 1,000 population in the last year.

**Marriages and dissolutions of marriage** increased in November, but decreased for the cumulative 11- and 12-month periods ending with November.

**Infant deaths decreased in November as 42 Missouri infants died compared with 53 one year earlier. For January-November, the infant death rate increased from 7.5 to 7.6 per 1,000 live births.**

**PROVISIONAL RESIDENT VITAL STATISTICS FOR THE STATE OF MISSOURI**

Item	November				Jan.- Nov. cumulative				12 months ending with November				
	Number		Rate*		Number		Rate*		Number		Rate*		
	1996	1997	1996	1997	1996	1997	1996	1997	1996	1997	1995	1996	1997
Live Births	5,063	5,445	12.3	11.9	68,144	67,678	14.0	13.7	72,796	72,077	14.0	13.6	13.4
Deaths	4,082	4,078	10.0	8.9	49,348	49,728	10.1	10.1	53,357	54,473	10.2	10.0	10.1
Natural increase	981	1,367	2.4	3.0	18,796	17,950	3.9	3.6	19,439	17,604	3.8	3.6	3.3

Marriages	3,310	3,717	8.1	8.1	41,450	40,784	8.5	8.34	4,742	43,807	8.5	8.4	8.1
Dissolutions of marriage	1,914	2,285	4.7	5.0	23,224	23,044	4.8	4.7	25,287	25,258	4.9	4.7	4.7
Infant deaths	53	42	10.5	7.7	521	525	7.5	7.6	559	570	7.6	7.7	7.9
Population base (in thousands)	...	...	5,359	5,395	...	...	5,359	5,395	...	...	5,315	5,346	5,392

\*Rates for live births, deaths, natural increase, marriages and dissolutions are computed on the number per 1000 estimated population. The infant death rate is based on the number of infant deaths per 1000 live births. Rates are adjusted to account for varying lengths of monthly reporting periods.

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